

Patent claims

1. A polyacetal molding composition comprising
 - a) from 20 to 99% by weight of a polyacetal homo- or copolymer,
 - 5 b) from 0.1 to 80% by weight of an additive, and
 - c) up to 1.0% by weight of a catalyst which catalyzes a chemical reaction between the polyacetal matrix polymer and the surface of the additive,where the catalyst does not comprise the element boron and is not a
10 Brönsted acid.
2. A long-fiber-reinforced polyacetal molding composition as claimed in claim 1 comprising
 - d) from 20 to 90% by weight of a polyoxymethylene homo- or
15 copolymer,
 - e) from 10 to 80% by weight of a reinforcing fiber,
 - f) from 0.00001 to 0.5% by weight of at least one catalyst which catalyzes a chemical reaction between the polyacetal homo- or copolymer and the surface of the reinforcing fiber.20
3. The polyacetal molding composition as claimed in claim 1, wherein the amount of component a) is from 20 to 99% by weight, that of component b) is from 0.1 to 80% by weight, and that of component c) is from 0.00001 to 0.5% by weight.
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4. The polyacetal molding composition as claimed in claim 1, wherein a catalyst or a mixture of catalysts is used which catalyzes transesterification, transamidation, or transurethanization reactions, or which catalyzes the formation of ester groups, amide groups, and
30 urethane groups.
5. The polyacetal molding composition as claimed in claim 1, wherein the catalyst is selected from the group consisting of phosphonium salts, phosphanes, ammonium salts, sulfonium salts, titanates, titanyl
35 compounds, zirconates, and their mixtures.
6. The polyacetal molding composition as claimed in claim 1, wherein

the additive is selected from the group consisting of mineral fillers, reinforcing fibers, impact modifiers, or their mixtures.

- 5 7. The polyacetal molding composition as claimed in claim 6, wherein
the impact modifier is selected from the group consisting of
polyurethanes, two-phase mixtures of polybutadiene and styrene-
acrylonitrile (ABS), modified polysiloxanes, silicone rubbers, graft
10 copolymers of an elastomeric, single-phase core based on polydiene
and a hard graft shell (core-shell structure), or mixtures of these
components.
- 15 8. The polyacetal molding composition as claimed in claim 1, wherein
the catalyst is selected from the group consisting of
ethyltriphenylphosphonium bromide, tetraphenylphosphonium
bromide, tetrabutylphosphonium bromide, stearyltributylphosphonium
bromide, triphenylphosphane, n-butyl titanate, or their mixtures.
- 20 9. The polyacetal molding composition as claimed in claim 2, wherein
the long-fiber-reinforced polyacetal molding composition is a glass-
fiber bundle which has been sheathed with one or more layers of the
polyacetalhomo- or copolymer, so that the fibers have been
impregnated with the polyacetalhomo- or copolymer.
- 25 10. The polyacetal molding composition as claimed in claim 9, wherein
the glass-fiber bundle has been wetted by the polyacetal homo- or
copolymer or by a blend of polyacetal homo- or copolymers and the
impregnated glass-fiber bundle has been sheathed by another
component, and the impregnated glass-fiber bundle and the other
30 component have been bonded to one another at the surface.
11. A molded article obtainable via shaping of a polyacetal molding
composition as claimed in claim 1.

Abstract

Polyoxymethylene molding composition and moldings produced therefrom

- 5 The present invention relates to a polyacetal molding composition comprising 0.00001 to 1.0% by weight of a substance which catalyzes a chemical reaction between the polyacetal matrix polymer and the surface of the additive, and which does not comprise the element boron, and which is not a Brönsted acid.
- 10 The inventive molding compositions have improved mechanical properties and very low formaldehyde emission.